

181-34

PHYTOMORPHOLOGY

OFFICIAL ORGAN OF
THE INTERNATIONAL SOCIETY OF PLANT MORPHOLOGISTS

CONTENTS

Structure and Function of <i>Rhinanthus minor</i> L. Trichome Hydathode	
R. PONZI & P. PIZZOLONGO	1
Floral Organogenesis of <i>Lagerstroemia indica</i> L. (Lythraceae)	
V. SINGH	7
New Algae from Prairie Soils. I. The Genus <i>Tribonema</i> Derbes et Solier (Xanthophyceae, Tribonematales, Tribonemataceae)	
H. WAYNE NICHOLS, SCOTT WONG, JEFFERY S. DEACON, CHRISTIAN M. THOMAS & MARTHA S. NICHOLS	15
Structure and Histochemistry of Stomata and Epidermal Cells in the Three Species of Genus <i>Athyrium</i>	
S.K. MALIK & T.N. BHARDWAJA	35
Effect of Some Chemical Factors on Protonemal Growth and Bud Induction in Three Mosses Grown in Vitro	
R.N. CHOPRA & POONAM MEHTA	43
Refined Staining Technique for Laticifers	
M. JAYABALAN, K. RAJARATHINAM & S. VEERASAMY	57
Sporogenesis and Gametogenesis in Pacific Island <i>Lobelia</i> (Campanulaceae- Lobelioideae)	
ARUN K. PANDEY, THOMAS G. LAMMERS & ANUPAMA JHA	63
Development of Ovule and Female Gametophyte in <i>Rheum palmatum</i> L.	
WANG YAOZHI, CHEN CHAO & DING HUIBIN	71
Cytogenetical Effects of Gamma Rays and Ethyl Methanesulphonate in Tomato (<i>Lycopersicon esculentum</i> var. <i>cerasiforme</i>)	
N.A. ZEERAK	81
Anatomy of Petrified Woods of Lecythidaceae and Combretaceae from Bikaner (Rajasthan), India	
R. HARSH, B.D. SHARMA & O.P. SUTHAR	87
The Identity and the Relationships of " <i>Solanum melongena</i> " var. <i>potangi</i> "	
J.L. KARIHALOO & S.K. MALIK	103
Morphological Studies of Oak Mycorrhizae from Two Forest Habitats Differing in their Sensitivities to Acid Precipitation in Eastern Pennsylvania	
SHYAMAL K. MAJUMDAR, CHRISTOPHER C. DERIVAUX, STEPHEN L. HOFKIN, CURTIS C. DAehler, SHELLY GEIST, TROY A. BAKER, BRUCE BAKER & MARTIN CONNAUGHTON	109

Adventitious Shoot Initiation on Excised Cultured Cotyledons of <i>Asclepias syriaca</i> L.	HERBERT B. TEPPER & ROBERT O. KNAPP	117
Embryological Studies in <i>Panicum repens</i> Linn.	G.N.V. FEBULAUS & T. PULLAIAH	125
Vesicular Arbuscular Mycorrhizal Relationships of <i>Prosopis juliflora</i> and <i>Zizyphus jujuba</i>	ALPANA KAUSHIK, R.K. DIXON & K.G. MUKERJI	133
In Vitro Effect of NH_4NO_3 on Growth and Alkaloid Content of <i>Tylophora indica</i> Merr.	SOUMITRA CHATTOPADHYAY, S.K. DATTA & MALABIKA RĀY	139
Comparative Anatomy and Ultrastructure of Normal and Marsh Spot Affected Cotyledons of Pea	DALBIR SINGH & RENU MATHUR	145
Reviews		151
Embryogeny of Primitive Gymnosperms <i>Ginkgo</i> and Cycads - Proembryo - Basal Plan and Evolutionary Trends	P.D. DOGRA	157
Cellularization of Endosperm in <i>Asphodelus tenuifolius</i> Cav.	P. CHITRALEKHA & N.N. BHANDARI	185
Development of Ovule and Anther of <i>Cuscuta tinctoria</i> (Cuscutaceae)	S. VÁZQUEZ-SANTANA, J. MÁRQUEZ-GUZMÁN, M. ENGLEMAN & A. MARTINEZ-MENA	195
Histology of Somatic Embryogenesis and Shoot Bud Formation in Callus Cultures of Finger Millet, <i>Eleusine coracana</i> (L.) Gaertn.	PRASANNA SIVADAS, N. CHANDRA & S.L. KOTHARI	203
Leaf Epidermal Studies in the Genus <i>Datura</i> Linn. (Solanaceae)	O.T. OGUNDIPE	209
Haustrorium Structure of <i>Pedicularis howellii</i> (Scrophulariaceae)	BRUCE W. ROBERT & LAZARUS W. MACIOR	219
Palynological Studies on Diploid and Tetraploid Clones of <i>Hevea brasiliensis</i> (Willd. Ex Adr. De Juss.) Muell. Arg.	C.K. SARASWATHY AMMA & M.R. SETHURAJ	225
VA Mycorrhizal Status of some Indian Bryophytes	PAYAL MAGO, C.A. AGNES & K.G. MUKERJI	231
Changes in Enzyme Activities in Organ Forming and Non-Organ Forming Callus Cultures of <i>Kaempferia galanga</i> L.	K.A. VINCENT, M. BEJOY, KAVIKISHOR & MOLLY HARIHARAN	241
Evolution of the Embryo of Seed Plants	E.S. TERYOKHIN	245
Embryogenesis and Plantlet Formation in Tissue Culture of <i>Kaempferia galanga</i> L. — A Medicinal Plant	K.A. VINCENT, MOLLY HARIHARAN & K. MARY MATHEW	253

Variability Among Seed Coats in some Species of the Genus <i>Onobrychis</i> Miller (Leguminosae-Fabaceae)	
M.D. SANCHEZ-YELAMO, M.E. TORTOSA, F. PEREZ-GARCIA & A. CUQUERELLA	257
A Histochemical Study During Sporogenesis in <i>Ophioglossum</i>	
C.K. RUDRAMUNIYAPPA & S.S. SUVARNKHANDI	267
Dissimilar Morphological Destiny of Axillary Buds and Interpolation of Vegetative Shoots in <i>Borassus flabellifer</i>	
S. VEERASAMY, K. RAJARATHINAM, & M. JAYABALAN	275
Analyse Du Processus De Pénétration Intracellulaire Des Champignons Des Mycorhizes A Vésicules Et Arbuscules	
J. DEXHEIMER, C. JEANMAIRE & J. GERARD	279
Disappearing Ferns from Mt Abu, Rajasthan 1, <i>Asplenium pumilum</i> Sw. var. <i>hymenophylloides</i> (Fee) Clarke	
B.D. SHARMA, A. SHARMA & R. HARSH	289
Floral Morphology and Anatomy of <i>Paphiopedilum insigne</i> and the Taxonomic Status of Cypripedioids (Orchidaceae)	
MUKTESH KUMAR & K.S. MANILAL	293
Reviews	299

INDEX TO AUTHORS

Agnes, C.A. (see Mago, Payal)	231
Babu, C.R. (Review)	152
Baker, Bruce (see Majumdar, Shyamal K.)	109
Baker, Troy A. (see Majumdar, Shyamal K.)	109
Bejoy, M. (see Vincent, K.A.)	241
Bhandari, N.N. (see Chitralkha, P.)	185
Bhardwaja, R.N. (see Malik, S.K.)	35
Bhojwani, S.S. (Review)	303
Chandra, N. (see Sivadas, Prasanna)	203
Chao, Chen (see Yaozhi, Wang)	71
Chattopadhyay, Soumitra In Vitro Effect of NH_4NO_3 on Growth and Alkaloid Content of <i>Tylophora indica</i> Merr.	139
Chitralkha, P. Cellularization of Endosperm in <i>Asphodelus tenuifolius</i> Cav.	185
Chopra, R.N. Effect of some Chemical Factors on Protonemal Growth and Bud Induction in Three Mosses Grown In Vitro	43
Connaughton, Martin (see Majumdar, Shyamal K.)	109
Cuquerella, A. (see Sanchez-Yelamo, M.D.)	257
Daehler Curtis C. (see Majumdar, Shyamal K.)	109
Datta, S.K. (see Chattopadhyay, Soumitra)	139
Deacon, Jeffery S. (see Nichols, H. Wayne)	15
Derivaux, Christopher C. (see Majumdar, Shyamal K.)	109
Dexheimer, J. Analyse Du Processus De Pénétration Intracellulaire Des Champignons Des Mycorrhizes A Vésicules Et Arbuscules	279
Dixon, R.K. (see Kaushik, Alpna)	133
Dogra, P.D. Embryogeny of Primitive Gymnosperms <i>Ginkgo</i> and Cycads - Proembryo - Basal Plant and Evolutionary Trends	157
Engleman, M. (see Vázquez-Santana, S.)	195
Febulaus, G.N.V. Embryological Studies in <i>Panicum repens</i> Linn.	125
Geist, Shelly (see Majumdar, Shyamal K.)	109
Gerard, J. (see Dexheimer, J.)	241
Hariharan, Molly (see Vincent, K.A.)	253
_____ (see Vincent, K.A.)	
Harsh, R. Anatomy of Petrified Woods of Lecythidaceae and Combretaceae from Bikaner (Rajasthan), India	87
_____ (see Sharma, B.D.)	289
Hofkin, Stephen L. (see Majumdar, Shyamal, K.)	109
Huibin, Ding (see Yaozhi, Wang)	71
Iqbal, Muhammad (Review)	155
Jayabalan, M. Refined Staining Technique for Laticifers	57
_____ (see Veerasamy, S.)	275
Jeanmaire, C. (see Dexheimer, J.)	279
Jha, Anupama (see Pandey, Arun K.)	63
Karihaloo, J.L. The Identity and Relationships of " <i>Solanum Melongena</i> " var. "potangi"	103

Kaushik, Alpana Vesicular Arbuscular Mycorrhizal Relationships of <i>Prosopis juliflora</i> and <i>Zizyphus jujuba</i>	133
Kavikishor (see Vincent, K.A.)	241
Knapp, Robert O. (see Tepper, Herbert B.)	117
Kothari, S.L. (see Sivadas, Prasanna)	203
Kumar, Muktesh Floral Morphology and Anatomy of <i>Paphiopedilum insigne</i> and the Taxonomic Status of Cypripedioids (Orchidaceae)	293
Lammers, Thomas G. (see Pandey, Arun K.)	63
Macior, Lazarus W. (see Robart, Bruce W.)	219
Mago, Payal VA Mycorrhizal Status of some Indian Bryophytes	231
Majumdar, Shyamal K. Morphological Studies of Oak Mycorrhizae from Two Forest Habitats Differing in their Sensitivities to Acid Precipitation in Eastern Pennsylvania	109
Malik, C.P. (Review)	299
Malik, S.K. Structure and Histochemistry of Stomata and Epidermal Cells in the Three Species of Genus <i>Athyrium</i>	35
_____ (see Karihaloo, J.L.)	103
Manilal, K.S. (see Kumar, Muktesh)	293
Márquez-Guzmán, J. (see Vázquez-Santana, S.)	195
Martinez-Mena, A. (see Vázquez-Santana, S.)	195
Mathew, K. Mary (see Vincent, K.A.)	253
Mathur, Renu (see Singh, Dalbir)	145
Mukerji, K.G. (see Kaushik, Alpana)	133
_____ (see Mago, Payal)	231
_____ (Review)	301
Nichols, H. Wayne New Algae from Prairie Soils. I. The Genus <i>Tribonema</i> Derbes et Solier (Xanthophyceae, Tribonematales, Tribonemataceae)	15
Nichols, Martha S. (see Nichols, H. Wayne)	15
Ogundipe, O.T. Leaf Epidermal Studies in the Genus <i>Datura</i> Linn. (Solanaceae)	209
Pandey, Arun K. Sporogenesis and Gametogenesis in Pacific Island <i>Lobelia</i> (Campanulaceae-Lobelioideae)	63
Perez-Garcia, F. (see Sanchez-Yelamo, M.D.)	257
Pizzolongo, P. (see Ponzi, R.)	1
Ponzi, R. Structure and Function of <i>Rhinanthus minor</i> L. Trichome Hydathode	1
Pullaiah, T. (see Febulaus, G.N.V.)	125
Rajarathinam, K. (see Jayabalan, M.)	154
_____ (see Veerasamy, S.)	139
Ramakrishna Rao, T. (Review)	57
Rāy, Malabika (see Chattopadhyay, Soumitra)	275
Robart, Bruce W. Haustorium Structure of <i>Pedicularis howellii</i> (Scrophulariaceae)	219
Rudramuniyappa, C.K. A Histochemical Study During Sporogenesis in <i>Ophioglossum</i>	267
Sanchez-Yelamo, M.D. Variability Among Seed Coats in some Species of the Genus <i>Onobrychis</i> Miller (Leguminosae-Fabaceae)	257

Saraswathy Amma, C.K. Palynological Studies on Diploid and Tetraploid Clones of <i>Hevea brasiliensis</i> (Willd. Ex Aдр. De Juss.) Muell. Arg.	304
Seth, M.K. (Review)	304
Sethuraj, M.R. (see Saraswathy Amma, C.K.)	225
Sharma, A. (see Sharma, B.D.)	289
Sharma, B.D. (see Harsh, R.)	87
_____ Disappearing Ferns from Mt Abu, Rajasthan 1. <i>Asplenium pumilum</i> Sw. var. <i>hymenophylloides</i> (Fee) Clarke	289
Singh, Dalbir Comparative Anatomy and Ultrastructure of Normal and Marsh Spot Affected Cotyledons of Pea	145
Singh, Prithipal (Review)	151
Singh, V. Floral Organogenesis of <i>Lagerstroemia indica</i> L. (Lythraceae)	7
Sivadas, Prasanna Histology of Somatic Embryogenesis and Shoot Bud Formation in Callus Cultures of Finger Millet, <i>Eleusine coracana</i> (L.) Gaertn.	203
Sivarajan, V.V. (Review)	302
Suthar, O.P. (see Harsh, R.)	87
Tepper, Herbert B. Adventitious Shoot Initiation on Excised Cultured Cotyledons of <i>Asclepias syriaca</i> L.	117
Teryokhin, E.S. Evolution of the Embryo of Seed Plants	245
Thomas, Christian M. (see Nichols, H. Wayne)	15
Tortosa, M.E. (see Sanchez-Yelamo, M.D.)	257
Vázquez-Santana, S. Development of Ovule and Anther of <i>Cuscuta tinctoria</i> (Cuscutaceae)	195
Veerasamy, S. (see Jayabalan, M.)	57
_____ Dissimilar Morphological Destiny of Axillary Buds and Interpolation of Vegetative Shoots in <i>Borassus flabellifer</i>	275
Vincent, K.A. Changes in Enzyme Activities in Organ Forming and Non-Organ Forming Callus Cultures of <i>Kaempferia galanga</i> L.	241
_____ Embryogenesis and Plantlet Formation in Tissue Culture of <i>Kaempferia galanga</i> L. — A Medicinal Plant	253
Wong, Scott (see Nichols, H. Wayne)	15
Yaozhi, Wang Development of Ovule and Female Gametophyte in <i>Rheum palmatum</i> L.	71
Zeerak, N.A. Cytogenetical Effects of Gamma Rays and Ethyl Methanesulphonate in Tomato (<i>Lycopersicon esculentum</i> var. <i>cerasiforme</i>)	81

